



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/386,972 08/31/99 MORADI

B 2008.003000

EXAMINER

MMC2/0820

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ART UNIT RAMBEY P PAPER NUMBER

DATE MAILED: 2879

08/20/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/386,972

Applicant(s)

MORADI, BEHNAM

Examiner

Kenneth J. Ramsey

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is **non-final**.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

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Prior Art Rejections

1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) Claims 1-27 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Konuma in view of Watkins et al and Itoh et al. Konuma, column 5, lines 1-49, teaches a process of evacuating a field emission device including a gettering step and a step of operating the field emission device during the evacuation thereof. At column 5, lines 45-49, Konuma states "Electron emission generated by driving the microfield emitter is finished in 1 or 2 minutes, and after the partial pressure of argon has become 1×10^{-8} Torr or less, the tip tube is sealed". Konuma thus differs in that the emitters are not driven while the partial pressure is at 10^{-8} Torr for a selected period of time. Itoh et al, column 2, lines 17-39 discloses that it was also proposed elsewhere in the prior art to include the step of operating the field emission device during the evacuation thereof in order to discharge the gas absorbed on the phosphor anodes. Itoh et al allege that "unfortunately, the proposed techniques fail to sufficiently discharge gas from the display device, to thereby fail to significantly improve life characteristics of the display device". Itoh et al thus repeat several times the introduction of and exhaustion of a purging gas to and from the display device subsequent to operating the field emission device to more perfectly remove the contaminants liberated during the operation of the device as well as to purge other contaminants. Itoh et al also differs in

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that the emitters are not driven while the partial pressure is at 10^{-8} Torr for a selected period of time but does teach operating the field emission device during evacuation at column 3, lines 6-10. Itoh et al is of note for the teaching that merely operating the field emission device in a vacuum (a 10^{-7} Torr or more vacuum is suggested) is not sufficient. Watkins et al, column 6, lines 4-13, teaches that it is desired to soak a gas display device in vacuum at a temperature less than the sealing temperature and at a pressure less than or equal to 10^{-8} Torr for 1-2 hours prior to sealing in order to remove gas impurities. Because the prior art suggests that it is desirable to remove as much of the gas impurities from a display device as possible and that difficult to remove gas impurities from a display device when the device is not soak at a pressure of 10^{-8} Torr or less for a selected period of time, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include in Konuma, or Itoh et al, the step of operating the field emission device while at a pressure of 10^{-8} Torr or less for a selected period of time. As to claims 3-4, the selected amount of time involves a mere choice as to the desired balance between the desired life of the display device versus the cost of production. As to claims 6-8, the choice sealing the display device while in vacuum or while at atmospheric pressure involves two well known alternative sealing steps either of which have their own advantages. As to claim 9, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to maintain cleanliness of the parts being assembled since any contamination is more difficult to remove once the parts are assembled. The examiner takes Official notice that it is common to subject the base plate to contaminants, e.g., etching solutions, which must

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be removed. The product made by the claim process necessarily is obvious because the process is obvious. Also, the degree of cleanliness of the product involves a mere matter of choice.


Directions for Responses

Any formal response to this communication should be directed to examiner Kenneth Ramsey, Art Unit 2879, and either

faxed to: 703-872-9318; or mailed to: Assistant Commissioner For Patents
Washington, D.C. 20231

Technical inquiries concerning this communication should be directed to Kenneth J. Ramsey, (703) 308-2324 (voice), (703) 746-4832 (fax).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Kenneth J. Ramsey
Primary Examiner
Art Unit 2879

kjr
August 19, 2001